A Comparative Study of
Insight in Schizophrenia and Mania

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CERTIFICATE

This is to certify that the dissertation titled **"A Comparative Study of Insight in Schizophrenia and Mania"** is the bonafide work of **Dr.V.Jaikumar,** in part fulfillment of the requirements for M.D(Psychiatry). (Branch – XVIII) examination of The Tamilnadu Dr. M.G.R Medical University, to be held in **SEPTEMBER 2006**. The Period of study was from August 2005 to February 2006.

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DECLARATION

I, **Dr. V.Jaikumar,** solemnly declare that dissertation titled "**A Comparative Study of "Insight in Schizophrenia and Mania**" is a bonafide work done by me at Institute of Mental Health, Chennai, during the period from August 2005 to February 2006 under the guidance and supervision of **Dr. M. Murugappan, M.D.,** Professor of Psychiatry, Madras Medical College.

This dissertation is submitted to The Tamilnadu Dr. M.G.R Medical University, towards part fulfillment for M.D. Branch – XVIII (Psychiatry),part- III examination**.**

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CONTENTS

INTRODUCTION AND OVERVIEW

Impaired awareness of illness has been known for hundreds of years. In 1604 in his play, "The Honest Whore", Thomas Dekker has a character say: "That proves you mad because you know it not". Among neurologists, unawareness of illness is well known since it also occurs in some individuals with stroke, brain tumors, Alzheimer's disease and Huntington's disease. The term “anosognosia” was first used by a French neurologist in 1914 (Prigatono and Schacter, 1991).

The Oxford English Dictionary defines Insight as "an inner sight, a discernment, a wisdom (or) glimpse of you beneath the surface”. To put it simply, it means the capacity to understand the hidden truth. Insight, as a concept of a symptom, got introduced during the later part of the 19th century by Dagonet (1881).

In 1934, Aubrey Lewis provided a temporary definition of Insight: “a correct attitude to morbid change in oneself”, but warned that the words ‘correct’, ‘attitude’, ‘morbid’ and ‘change’ each called for discussion. He also said, “All questions of the judgment of reality, such as…. the consideration of insight, go to the root of the psychopathology of different conditions”

The usage of the word by Gestalt psychologists for an “aha” experience (Harre and Lamb, 1983; Conrad, 1958) and the psychoanalytic classification into ‘emotional’ and ‘intellectual’ is avoided here (Zilborg, 1952; Sandler et al., 1973).

Our study is restricted to the usage of the word for recognizing one's own mental disorder, medication effects, social consequences, awareness and attribution of signs and symptoms.

Even in our clinical setting, some patients with schizophrenia do accept that they have something wrong in them even though they decline to accept that they have a psychiatric illness.

Probably their sociocultural and religious matrix colors their expression.

At times even if the patient denies mental disorder, he accepts distress and accepts drugs without protesting. So, here is the question whether insight is an all (or) none phenomenon.

Insight is a multidimensional and not an unitary phenomenon (Amador, et al., 1993).

The component dimensions of insight are continuous rather than dichotomous phenomena. In other words one can have partial insight.

Insight into mental disorder may be modality specific i.e. the level of insight can vary across the many manifestations of illness. For example a patient may be aware of his flat affect, but he may be unaware of his asociality.

Insight comprises of the processes of awareness and attribution. Awareness is the recognition of signs or symptoms of illness, while attribution refers to explanations about the cause or source of the signs or symptoms.

A patient may be aware of "alogia" but may not attribute the decrease in verbal abilities to a mental disorder.

A patient may deny that he is currently mentally ill, but may accept that he was mentally ill in the past.

Again, a patient may deny having mental illness and still accept treatment and vice versa.

REVIEW OF LITERATURE

The relationship between schizophrenia and poor insight was identified even when the disorder was first named by Bleuler (Bertschinger, 1916; Mayer- Gross, 1920 as cited by Wciorka, 1988). Poor insight as a symptom is a consistent accompaniment of schizophrenia (Carpenter et al., 1973). In fact lack of insight was the most frequent symptom occurring in the world health organization (WHO), International pilot study of schizophrenia (IPSS) in 1973.

Assessing insight is involved with a lot of controversies. Insight is assessed as part of standard mental state examination, but no guidelines exist as how to quantify or qualify it. (Markova & Berrios, 1992). Among all the parameters of the mental status examination, it has the poorest construct validity, with little consensus among different authors on its clinical implications. Lack of insight is considered to be characteristic of psychotic disorders.

Interest in the concept of insight in psychosis has been revived recently (David, 1990; Amador et al., 1991; Ghaemi & Pope, 1994; Cuesta & Peralta, 1994; Amador & David, 1996; David et al., 1995). The clinical importance of insight is now being studied. Certain themes have been examined such as: the relationship between insight and treatment compliance (McEvoy et al., 1989a; Buchanan, 1992); the specificity of poor insight for the diagnosis of schizophrenia (Wing et al., 1974; Amador et al., 1994); the link between insight and cognitive impairment (young et al., 1993; Cuesta & Peralta 1994; Lysaker et al., 1996); cerebral ventricular enlargement (Takai et al., 1992) and

finally the value of insight as a predictor of better outcome (McGlashan et al., 1981; McEvoy et al., 1989b).

The Assessment of insight

In general, the approaches used in the assessment of insight can be divided into a) categorical *i.e*., insight is viewed as an all or none phenomenon (described as present or absent), or categorized into more groups (described as present, partially present or absent) and b) continuous *i.e.*, insight is conceptualized as a continuous process and assessed in terms of scores from structured schedules based on an unitary concept (McEvoy et al., 1989a) or on multidimensional models (Amador et al., 1991; David,1990).

Problems beset the categorical approach. A common one is that anchor points such as full, partial or absent are rarely defined as in Eskey (1958), Heinrich et al., (1985), Van Putten et al., (1976), Cuesta & Peralta (1994) and Takai et al., (1992) where more or less structured methods of mental state examination were used but the scalar criteria were not specified. Furthermore, the categorization approach is based on narrow definitions of insight, generally couched in terms of recognition or awareness of mental illness, with some adding awareness of need for treatment. Narrow definitions entail a view of insight as a “discrete entity” or “symptom” that is not semantically coterminous with the idea of “awareness”, with which it is often combined.

The dimensional approach, on the other hand, has endeavoured to broaden and operationalize the assessment of insight. McEvoy et al., (1989a), devised the Insight and Treatment Attitude Questionnaire (ITAQ) to assess patients’ awareness of their illness and perceived need for treatment and

hospitalization. This standardized instrument yields insight scores but is based on a fairly narrow definition of insight and focuses on the degree of correlation between attitudes of patients and staff rather than on patients' subjective views. More recently, some have viewed insight as "multidimensional" (Amador et al., 1991; David, 1990; Greenfield et al., 1989), *i.e*., as consisting of related dimensions susceptible to assessment and quantification by standard schedules. Thus, David (1990) proposes three dimensions: awareness of mental illness, awareness of the need for treatment and the ability to relabel psychotic experiences as abnormal. Amador et al., (1991), on the other hand, suggest a broader multidimensional construct of insight as comprising of: a) awareness of the signs, symptoms and consequences of illness, b) general attribution about illness and specific attribution about symptoms and their consequences, c) self-concept formation and d) self-defensiveness. In their empirical work, however, Amador et al., (1993) base their assessment of insight on different dimensions, namely, awareness of illness (general and particular symptoms), attribution regarding illness and symptoms, achieved effects of medication and awareness of social consequences of having a mental disorder. They also include retrospective views.

Retrospective Insight

Expecting insight from a psychiatrically ill person is asking for a great deal but not the impossible. Modern authors readily accept the notion that there are degrees of insight (Gelder et al., 1983) of which the retrospective variety is as valid as any other, and that its development is an integral part of the recovery process (Landis, 1964). When a patient accepts mental illness of the past he is said to have retrospective insight. Bleuler, (1924) and Jaspers, (1913)

warned us to be cautious in interpreting such retrospective insight and not to believe totally the claims of patients that they have become aware of the past unreal experiences. Wing et al., (1964) asked a group of 113 male schizophrenia patients just before discharge whether they would classify themselves as having been mentally ill. 20% answered yes; 52% used words like ‘strain’ and ‘nerves’ ; 23% said that their own delusions and hallucinations indicated that they had been mentally ill. Cutting et al., (1985), asked 20 remitted patients whether they thought that they had been mentally ill. Seventeen said yes and he concluded that a surprising proportion of patients do possess insight contrary to the expectation of many psychiatrists.

Is Insight a good thing ?

Insight, when it is absent causes poor drug compliance and prognosis. When excessive it may be associated with depression and hence a poor outcome. This leads us to the question how much insight is necessary?. McGlashan et al., (1981), concluded that absence of negative attitude is more necessary than a positive attitude. Roback & Abramowitz (1979), showed that patients with insight were better adjusted behaviorally during the hospital stay, yet they were more psychologically distressed. Insight was considered by David (1990) as a painful struggle against a psychotic disturbance and that the lack of insight might serve a protective function. That lack of insight goes along with elevated and elated mood is supported by several authors (Van Putten et al., 1976; Heinrich et al.,1985; Bartko et al., 1988). This grandiose conviction that one’s mental health is intact seems to serve a protective function in schizophrenia patients, albeit temporarily. It is possible to have too much insight subjecting oneself to a sick role and continuous torturing self-

examination. Both too much and too little could be construed as abnormal illness behaviour (Pilowsky, 1978). A compromise might be sufficient insight to accept treatment, but not so much that it encourages brooding on the reality of how severely ill one is.

This formulation has parallels in the demonstrably more favorable prognosis achieved by cancer patients who adopt a fighting spirit. (Greer, 1983).

Pseudoinsight

Jaspers (1913), cautions about pseudoinsight when the patient may accept the problem as that of ‘ego boundaries’ or ‘chemical imbalance’. He simply regurgitates the explanations he has overheard. This acceptance may be similar to his acceptance of its occurrence due to voodoo spell. Insight need not imply knowledge of causality either, a view at odds with psychoanalytic formulations (Reid and Finesinger, 1952; Blum, 1979). It simply requires the acceptance of personal illness affecting the mental apparatus (the ability to think, perceive, act, remember etc) whose etiology may be and often is unknown. Nevertheless, pseudoinsight of the kind described above may have a hermeneutic value to the patient in establishing order in the midst of chaos and may initiate a process leading to what could be called true insight.

Relationship of insight to compliance & outcome:

Insight is frequently assumed to predict treatment compliance. There is enough evidence that a strong association is present between poor insight and poor drug compliance (Bartko et al., 1988; Van Putten et al., 1976). Also

presence of insight can predict successful implementation of treatment in schizophrenia (Lin et al., 1979; Heinrich et al., 1985). Lin et al., (1979), studied 100 schizophrenia patients and found that over half of the patients with insight did not take their medicine regularly and 17% of those without insight were treatment compliant. Heinrich et al., (1985), found that the presence of insight *i.e*., the ability to recognize a relapse in the early stages of decomposition, was associated with greater successful resolution of the relapse. McEvoy (1981), asked 45 schizophrenia patients whether they felt they were ill and required treatment. Only 13% agreed that they were ill, with 27% accepting a need for medication. Van Putten et al., (1976), compared 30 drug compliers and 29 drug refusers and showed that compliers had better insight. Bartko et al., (1988), did a similar study in 32 noncompliant patients and showed them to have poorer insight when compared to drug compliers.

In conclusion one can say that insight clearly aids compliance. It was noted that patients can have no insight into illness and still accept and derive benefit from treatment. It was then recommended that drug compliance and awareness of illness be regarded as separate though overlapping constructs, which contribute to insight.

Impaired awareness of illness is one important reason why individuals with schizophrenia and bipolar disorder do not take medication. Without medication, the person's symptoms become worse. This often makes them more vulnerable to being victimized and committing suicide. It also often leads to rehospitalization, homelessness, being incarcerated in jail or prison and violent acts against others because of the untreated symptoms (Lacro et al., 2002).

Insight and violence

Compared with the nonviolent patients, violent patients were more symptomatic, had poorer functioning and had a more prominent lack of insight (Buckley et al., 2004).

Insight and Social skill

Lysaker et al., (1998), suggest that poor insight into mental illness may interfere with one's social relationships due to discrepancy between how persons with mental illness see themselves and how others view them. He also found that persons with impaired insight had significant lower scores on interpersonal relatedness (*e.g.* frequency of social contacts) and basic interpersonal skills. (*e.g*. empathy, rapport). In a similar vein, others have found relationships between decreased awareness of mental disorder and increased social isolation, decreased social activities, lower social functioning and smaller social networks (Amador et al., 1994; Dickerson et al., 1997; Smith et al., 1999; White et al., 2000). In a study done by J L Francis et al., (2001), he concluded that greater insight was associated with better overall social skill, less observed strangeness and a greater self disclosure of one's mental illness.

Insight-depression-suicidality

"…the correlation between truth and happiness is not invariably positive…" (Sackeim, 1998)

The majority of empirical studies indicate that increased insight serves to improve the functioning of patients with schizophrenia. Suicide is one area of research in which increased awareness is correlated with heightened

mortality and morbidity. In particular, patients' awareness of current asociality, delusions, anhedonia and blunted affect may significantly increase the risk of suicidality (Amador et al., 1996). Patients who achieve a nondelusional awareness of their illness and its consequences manifest a substantially increased risk of completing suicide (Drake et al., 1986). Schwartz and Peterson (1999), found that as patients' awareness of their need for psychiatric treatment increased, overall severity of current suicidality also increased. A later replication study similarly found that insight into need for treatment was significantly correlated with ratings of suicidal intent. Additionally, awareness of social consequences of the disorder predicted heightened suicidality. (Schwartz, 2000a). Good premorbid adjustment combined with schizophrenic patients' awareness of the psychotic syndrome and its impending disabilities may lead to depressive symptomatology and eventual suicidality. It was hypothesized that insight into illness and its life long consequences may predispose schizophrenia patients to a demoralization syndrome that spirals towards severe depression and suicidal ideation, a common syndrome that has important implications for clinical practice (Schwartz, 2000b). Schwartz (2001) showed that depression significantly increased as patients self-awareness increased. Combining these findings he proposed the linear insight-demoralization-depression-suicidality syndrome in schizophrenia patients. These findings point to a need to assess, monitor and intervene in schizophrenia patients with insight for depressive symptomatology.

Insight and delusion

Delusions are false judgments held with extraordinary convictions. Conviction is an essential part of delusions according to Jaspers, Kraeplin &

DSM-IV's operational definition. This position has been challenged by several authors who do not accept that delusions are unitary concepts (Junginger & Frame, 1985). In addition and of most relevance here, they contest the notion of absolute conviction (Kendler et al., 1983; Garety1985; Brett-Jones et al., 1987). It is assumed that as conviction diminishes, insight increases. One conclusion is that, like the allied concept of insight, delusions are most usefully regarded as multidimensional. The degree of conviction in the deluded may vary considerably. Sacks et al., (1974), called this the "double awareness phase" in the recovery from delusions, although similar states also occur during their onset (Maher & Ross, 1984). These states may arise from rapid oscillation between belief and disbelief or because an individual becomes amenable to testing still firmly held beliefs held against reality. Amador et al., (1993), also agree to the multidimensional concept of delusion. He says that he has seen many patients with fixed false beliefs who still have partial awareness of the delusion (awareness that the idea is not shared by others, is implausible, violates laws of nature etc.)

Models of insight

Several correlational patterns have begun to emerge within the study of insight in schizophrenia. These have solidified into three main schools of thought regarding etiology: the Psychological Defense Model; the Cognitive Deficit Model and the Neuropsychological Deficit Model (Rickelman, 2004).

The Psychological Defense Model: This was practically the only existing school of thought about insight prior to 1990. The prevailing assumption was that failure to recognize or admit to a psychiatric illness was a

conscious (or sub-conscious) refusal rather than an inability. It was further assumed that knowledge of the illness did exist at some cognitive level.

Historically, self-awareness deficits in schizophrenia have been most often understood as stemming from psychological defenses or adaptive coping strategies. Mayer-Gross (1920), classified defensive strategies of schizophrenia patients into 4 categories: denial of future, creation of new life after illness, denial of psychotic experience and melting of the psychotic experience into a new set of life experiences. In their review of literature of post psychotic depression, McGlashan and Carpenter (1976) identified its relation to denial in schizophrenia. They stated that postpsychotic depression arises from a lessening of defensive denial, which results in the patients becoming aware of the tragic circumstances of their illness. McGlashan (1975) suggested that there exists a continuum of recovery styles. On one end lies 'sealing over' *i.e*, patients who prefer not to think or talk about their psychotic experience. On the other end lies 'integration' *i.e*, patients who are willing to discuss about the psychotic experience and learn more about themselves. These were interpreted and reflected as coping strategies applicable to other stressful events besides schizophrenia. The frequent finding that poor insight is positively correlated with elated mood and grandiosity has also been interpreted as evidence that poor insight serves a defensive function (Van Putten et al., 1976).

The Cognitive Deficit Model: In contrast, the Cognitive Deficit Model acknowledges a slightly more organic etiology to impaired insight. Drawing on research that has linked decreasing insight to increasingly poor scores on the Wisconsin Card Sorting Test (WCST) and other measures of cognitive function (Keshavan et al., 2004; Lele, 1998; Young et al., 1993), the Cognitive Deficit

Model suggests that poor insight is a result of progressively degenerating cognitive functioning over the course of the illness. Given the high frequency of poor insight seen in first-episode schizophrenia patients (Keshavan et al., 2004), progressive degeneration does not seem to be a likely causal factor for poor insight. However, this does not discount cognitive functions as a correlation factor. In fact, the link between poor WCST scores, a known measure of frontal lobe function and poor insight in schizophrenia patients may be evidence for a more neurological basis of impaired insight. . Donohoe et al., (2005) concluded that while impaired insight does appear to be associated with executive deficits, this association may not be specific but may instead relate to cognitive deficits more generally. Craig Goodman et al., (2005) found that there is an association between poor insight and cognitive impairment in patients with schizophrenia, but concluded that the relationship may not specifically involve frontal lobe dysfunction.

The Neuropsychological Deficit Model: The Neuropsychological Deficit Model developed out of an identified similarity between the symptoms of poor insight and a neurological condition called anosognosia. Generally developing secondary to a specific lesion (such as a focal traumatic brain injury) or diffuse brain damage (such as a stroke), anosognosia is an acknowledged neurological deficit. Patients afflicted with anosognosia share striking similarities with psychiatric patients who have impaired insight (Amador and Paul-Odouard, 2000; Lele et al., 1998). Both have a severe lack of awareness of their deficits, which persist despite all evidence to the contrary, have a strong desire to prove their own assertions and as such, invent confabulations to explain away pathological symptoms. Furthermore, both sets of patients often demonstrate

(through functional or imaging tests) frontal lobe deficits. Lele and Joglekar (1998), have carried the analogy further, pointing out that both anosognosia and poor insight in schizophrenia can be either generalized (relating to all aspects of the disease) or domain-specific (patient is aware of certain symptoms or functional deficits, but not others). Amador et al., (1994) have likewise identified what they call "spotty insight" among schizophrenia patients

The specific brain areas that appear to be most involved are the frontal lobe and part of the parietal lobe (Flashman et al., 2001; Amador & David et al., 2004).

A number of researchers (Weiler et al., 2000; Rusch and Corrigan 2002; Smith et al., 2004) have concluded that insight is likely a function of several cognitive, social and biological factors, many of which may work in tandem to produce various types of insight impairments.

Several authors have correlated deficits in insight with both neuroanatomic abnormalities in frontal lobe (Flashman et al., 2001) as well to poor performance in task related to frontal lobe activation (Keshavan et al., 2004; Lele, 1998; Young et al., 1993). Smith et al., (2004) have proposed one possible mechanism that integrates current models of awareness, involving frontal-cortical-striatal circuitry abnormalities.

Comparing insight across the psychoses

Many studies of individuals with schizophrenia report that approximately half of them have moderate or severe impairment in their

awareness of illness. Studies suggest that approximately 40 percent of individuals with bipolar disorder have impaired awareness of illness.

Studies done by Amador et al., (1994), showed that deficits in insight have been found to be more common and more severe in patients with schizophrenia, than in patients with schizoaffective and major depression with or without psychosis, but not more severe than they are in patients with bipolar disorder.

Studies done by Pini et al., (2001), replicated the above finding. They evaluated 29 inpatients with schizophrenia, 24 with schizoaffective disorder, and 183 with mood disorders with psychotic features (153 with bipolar disorder and 30 with unipolar depression). They found that insight deficits did not differ between schizophrenia & bipolar mood disorder. In addition, they found that patients with schizophrenia had poorer insight than patients with schizoaffective disorder and patients with psychotic unipolar depression. Correlations were found in the direction of association between poorer insight and poorer psychosocial functioning. They went on to suggest that future studies should examine whether patients with bipolar disorder with very poor insight show a pattern of neurocognitive deficit similar to that found in schizophrenia and whether level of insight is related to state versus trait in this group.

Studies done by Fennig et al., (1996), showed that lack of insight is more prevalent in schizophrenia and improves over time. They also mentioned that components of prior treatment leading to better insight should be explored.

Chen at al., (2001), also found that patients with schizophrenia have poorer insight compared to other psychotic disorders including mania.

Pini et al., (2004), found that subjects with schizophrenia were much more compromised on insight dimension than psychotic mania.

Yen C F et al., (2005) studied 65 bipolar subjects and 74 schizophrenic subjects considered to be in remission. He found that the relationship between admission insight scores correlated with medication adherence at 1 year follow up for bipolar patients but not for schizophrenia patients and concluded that building insight is an important step for establishing medication adherence in bipolar patients.

Insight changes during hospitalization

Studies suggest that approximately one- third of individuals with schizophrenia improve in awareness of their illness when they take anti psychotic medication. Studies also suggest that a larger percentage of individuals with bipolar disorder improve on medication (Jorgensen et al., 1995).

Weiler et al., (2000), found that many patients show improved insight as their acute symptoms improve. Insight improved across diagnoses during hospital care and significant relationship between improved symptoms and improved insight were obtained in both bipolar disorder & schizophrenia. He concluded that some aspects of insight were state related during exacerbation of illness in both patients with schizophrenia and bipolar disorder.

Chen et al., (2001), found that insight improved in over half of the patients during a psychotic episode and suggested that insight impairment was not entirely fixed and the possibility of intervention is open (Kemp et al., 1996)

Ghaemi et al., (1995), concluded that insight did not appear to improve in general as the manic episode subsided.

In the first meta-analysis of studies assessing insight in mania, Ghaemi et al., (2004), concluded that insight improved in bipolar disorder with resolution of the acute manic episode, suggesting that insight is state-dependent in bipolar disorder. He suggested that impaired insight be considered as part of the diagnostic picture of acute mania.

Insight and severity of psychotic symptoms

The relationship between unawareness of illness and severity of psychopathology in schizophrenia remained unclear. Some early studies examining the relationship have found these dimensions to be both inversely correlated (Small et al., 1965) and positively correlated (Whitman and Duffey 1961). Later reports indicated that they are independent of each other (Bartko et al., 1988; McEvoy et al., 1989b).

But more recent reports have shown that more severe psychiatric symptoms are seen in patients with poor insight, both in schizophrenia and mania.

Williams et al., (2002), found that severity of symptoms were significantly associated with insight in schizophrenia and bipolar mood

disorder. These results are consistent with the notion that poor insight is associated with severe illness.

Francis J L et al., (2001), also found that greater insight was associated with less severe psychiatric symptoms. He also showed that greater insight was associated with better overall social skill, less observed strangeness and greater self-disclosure of one's mental illness.

Insight and overall level of functioning

An association between poorer insight and poorer overall level of psychosocial functioning in schizophrenia as measured by GAS (Global Assessment Scale) was shown by Amador et al., (1994).

Attempts at improving poor insight

There are very few reports in psychiatric literature examining directly the relationship between specific interventions and changes in insight. Attempts made in neurological disorders to treat problems of self-awareness serve as a useful model. McGlynn & Schacter, (1989), state that in severe forms of anosognosia, even repeated attempts to demonstrate deficits to the patients are ineffective. Glisky and Schacter, (1987), suggested that extreme repetition is necessary in training brain-damaged patients with memory impairments. Prigatano and Fordyce, (1986), found that frontal lobe dysfunction patients could be made to improve self-perception, whereas therapies were ineffective in temporal lobe and deep brain damaged patients. The implications of such works provide important guidelines for schizophrenia in which both frontal and temporal lobe lesions are postulated.

Partially successful attempts to modify delusional beliefs (Watts et al., 1973; Milton et al., 1978) and at patient education (Lin et al., 1979; Brown et al., 1987) offer indirect evidence that some forms of knowledge about their illness can be modified in patients with Schizophrenia. Seltzer et al., (1980), observed that psychoeducated patients had better treatment compliance compared to those who were not.

More recently, Cognitive Behavioral Therapy (CBT) has also shown potential in treating specific aspects of schizophrenia. Several authors (Rickelman, 2004; Lele and Joglekar, 1998) have shown that CBT improves Wisconsin Card Sorting Test (WCST) scores in schizophrenia patients. The WCST, as previously stated, is an accepted measure of frontal lobe cognitive functioning. Thus, if hypotheses linking certain aspects of insight to frontal lobe regions are correct, an improvement in WCST scores might well correlate with an improvement of insight.

David, (1990) rightly concluded that as clinician rediscover the concept of insight they will feel more inclined to encourage patients to rediscover it too, allowing them to play a more active role in recovery.

Insight in bipolar disorder- mania

Ghaemi et al., (1995), examined the clinical correlates of lack of insight in bipolar disorder in 28 acutely manic patients and concluded that like schizophrenia, bipolar disorder appears to be a condition in which poor insight is a prominent characteristic. He also found that the mean scores of insight improved only slightly from admission to discharge despite marked improvement in other psychiatric symptoms. However, Ghaemi et al., (2004) in

a meta- analysis, states that insight improves in bipolar disorder with resolution of the acute manic episode, suggesting that insight is state dependent in bipolar disorder.

Yen C F, (2003), assessed 33 mania patients during the manic state and subsequently during recovery and found that insight can improve, remain unchanged or decline during recovery from manic episodes. He also concluded that adequate treatment of manic symptoms is the first step toward managing insight impairment.

Lam D, et al., (1997), did a cross sectional study in 40 bipolar patients who were not in acute manic episode and found that the patients' level of social functioning was related to their level of insight, and to how well they coped with the prodromes of mania and whether they could detect prodromes of depression. The results suggest that it is worth exploring ways of teaching patients to monitor their moods and to promote insight and good strategies for coping with their prodromes.

In a study done by Dell Osso and Pini, (2002), in bipolar patients, they found that patients with mania showed significantly poorer insight compared with mixed mania, bipolar depression and unipolar depression.

Ghaemi et al., (2000), performed a study to assess the relationship between impairment of insight and the long-term outcome in affective and anxiety disorders in 101 treated patients. Outcome was prospectively assessed with the Clinical Global Impression (CGI) and Global Assessment of Functioning (GAF) rating scales. The mean follow-up period was 3.9 months. They found that initial impairment of insight did not correlate with poor

outcome. However, improvement in insight correlated with good outcome, particularly in bipolar disorder type I. Insight was similarly impaired in bipolar and unipolar major depressive disorders, and more so than in anxiety disorders. An association between a lack of improvement in insight and a poor outcome, most significantly in bipolar disorder type I, was observed in this sample. They found a greater relative impairment of insight in mood versus anxiety disorders.

Pallanti, (1999), investigated the awareness of illness and subjective cognitive complaints of 57 patients with either bipolar I disorder or bipolar II disorder during a phase of clinical stabilization. He found that patients with bipolar II disorder had significantly lesser insight and a higher level of subjective complaints than patients with bipolar I disorder. He concluded that severe deficits in self-awareness may constitute a distinguishing psychopathological characteristic of patients with bipolar II disorder. He also suggested that further studies were required to determine if there were associated neuropsychological dysfunctions.

The questions posed to us:

1. Are there differences in insight deficits between schizophrenia and mania?

2. Is the severity of psychotic symptoms correlated with poorer insight?

3. Is poor insight correlated with poor psychosocial functioning?

4. Does insight improve during hospitalization and treatment, as the acute psychotic symptoms resolve in schizophrenia & mania?

AIM

1. To describe the various components (dimensions) of insight.

2. To measure the prevalence of insight in schizophrenia and mania.

3. To find the relationship between insight and severity of psychosis.

4. To find the relationship between insight and overall level of functioning.

5. To study the change that occurs in insight during hospitalization and treatment.

6. To clarify if insight deficits differ in the two groups-schizophrenia and mania.

HYPOTHESIS

1. There is no difference in the insight deficits between schizophrenia and mania.

2. Poorer the insight, more severe the psychotic symptoms in both schizophrenia and mania.

3. Poorer the insight, poorer the psychosocial functioning in both schizophrenia and mania

4. Insight improves during hospitalization and treatment in both schizophrenia and mania.

5. Better the education of the schizophrenia and mania patients, better the insight.

6. Longer the duration of illness in schizophrenia, better the insight.

7. Greater the number of episodes in mania, better the insight.

8. Schizophrenia and mania patients with prior treatment have better insight as compared to those who were never treated.

MATERIALS AND METHODS

This is a descriptive study, of naturalistic design done in the acute ward of Institute of Mental Health. Patients attending the out patient department at Institute of Mental Health who were psychotic and required admission and hence hospitalized in the acute ward (family ward) between November 2005 and February 2006 were studied.

Inclusion Criteria

1. Of them 30 consecutive patients who satisfied the ICD-10 criteria for schizophrenia were compared with 30 consecutive patients who satisfied the ICD-10 criteria for bipolar affective disorder- current episode mania. The diagnoses were done by two persons (investigator and a consultant psychiatrist) independently.

2. Age greater than 16 years.

Exclusion criteria

1. Substance induced psychosis
2. Epilepsy
3. Dementia
4. Cerbrovascular disease.
5. Patients not communicative and hence with whom a meaningful interview was not possible.

Informed consent was obtained.

The instruments namely semi structured proforma for sociodemographic and clinical variables, the scale to assess unawareness of mental disorder, brief psychiatric rating scale and global assessment of functioning scale were administered twice, first at the time of admission and again at the time of discharge.

During the stay in hospital, the patients were accompanied by a close relative. Treatment given was mainly pharmacotherapy- antipsychotic drugs were used to treat schizophrenia and a combination of antipsychotics and mood stabilizers were used for mania. Pareteral injections of haloperidol, lorazepam and promethazine were also used whenever necessary. No attempt was made to control the treatment variables, as our aim was to do a naturalistic study that would give a real world picture of evolution of symptoms.

Instruments used

1. A semi structured proforma for sociodemographic profile and relevant clinical data.

2. Brief Psychiatric Rating Scale (BPRS).
3. Global Assessment of Functioning scale (GAF).
4. Scale to Assess Unawareness of Mental Disease (SUMD).

1. Semi structured proforma for Sociodemographic and relevant Clinical data

The proforma was used to collect data such as name, age, sex, outpatient and inpatient numbers, marital status, employment status, details of occupation, religion, education, socioeconomic status, type of family and handedness.

Clinical data that were recorded include the duration of illness (for schizophrenia) and number of episodes (for mania), details of prior treatment and details of current treatment.

2. Scale to assess Unawareness of Mental Disorder (SUMD)

SUMD has of all 74 items. The first item measures current awareness of mental disorder (referred hereafter as “item 1c”). The second item measures awareness of mental disorder in the past (referred hereafter as “item 1p”). The third item measures current awareness of achieved effects of medication (referred as “item2c”). The fourth item measures awareness of achieved effects of medication in past (“item2p”). The fifth items measures current awareness of social consequences of mental disorder (“item3c”). The sixth item measures past awareness of social consequences of mental disorder (“item3p”). Thus it has six general items (“items 1-3, c & p”).

These 6 general items approximate the 3 most widely used definitions of insight - global awareness of mental disorder, awareness of achieved effects of medication and awareness of social consequences of having a mental disorder and included are both the past and current time periods.

The remaining 68 items are grouped into 17 groups. The 17 signs and symptoms taken into consideration are

4) Hallucination

5) Delusion

6) Thought disorder

7) Inappropriate affect

8) Unusual appearance

9) Stereotypic behavior

10) Poor social judgment

11) Poor control of aggressive impulses

12) Poor control of sexual impulses

13) Alogia

14) Flat affect

15) Avolition- Apathy

16) Anhedonia /Asociality

17) Poor attention

18) Confusion-Disorientation

19) Unusual eye contact

20) Poor social relationships

For each of these 17 items, (hereafter referred to as “items 4-20 of SUMD”) current awareness, retrospective awareness, current attribution and retrospective attribution were assessed. Awareness is the recognition of signs or symptoms of illness, while attribution refers to explanations about the cause or source of the signs or symptoms.

All scores range from 1-5 with scores indicating awareness or attribution. It is to be noted here that higher the SUMD score, higher the unawareness. A score of 1 would mean patient is aware. A score of 3 would mean patient was somewhat aware. A score of 5 would mean patient is unaware. A score of 0 is given, when the symptom is absent or not applicable (for items 4-20). Thus higher scores in SUMD imply poorer insight.

Although the scale to assess unawareness of mental disorder is meant to be comprehensive it was designed so that any scale or summary item can be used independent of the others depending on the goals of the investigation.

The scale was put to test by Amador et al., in 1993. The scale item variability was high and normally distributed supporting the contention that insight can be rated on a continuous rather than a dichotomous scale.

The insight ratings on the mental status examination and the Hamilton depression rating scale were highly correlated with rating on the general item of the scale to assess unawareness of mental disorder suggesting that these items have convergent variability with other global measures of insight into mental disorder.

Amador, (1993), showed that the subscales were largely independent of each other and that both the distinction between “awareness and attribution” and “current and retrospective” assessment are valid. He also established that the “current” subscales measure a phenomenon which differs in many respects from that assessed by the retrospective subscales and insight evaluation of the mental status examination.

The Scale to Assess Unawareness of Mental Disorder has good reliability and validity and has certain advantages over previous measures of insight, suggesting the usefulness of a multidimensional view of this complex concept.

3. Global Assessment of Functioning scale (GAF)

This is the fifth axis in DSM-IV. It has its origins in Health sickness rating done by Luborsky in 1962 and considered to be the first effort to evaluate psychological health and illness, utilizing a 100-point scale. Later the scale was divided into groups called levels in the global assessment scale and in 1987, after some modifications, became the global assessment of functioning scale and Axis-V of the DSM-IIIR and DSM-IV.

The GAF is used to assess psychiatric patients at the time of admission to an inpatient or outpatient program as a part of multiaxial evaluation as recommended by the American Psychiatric Association- DSM classifications.

The GAF is a 100-point single item scale with values ranging from 1 to 100, representing the hypothetically sickest person to the healthiest. The scale is divided into equal point intervals with 81-90 and 91- 100 for individuals who exhibit superior functioning. Most outpatients will receive ratings between 31-70 and most inpatients between 1- 40.

The information needed to assign a numeric value to the health of a patient comes from the clinical evaluation done and other sources. The reliability of the GAF ranges from 0.62 to 0.82. (Endicott & Fliess et al., 1976).

4. The Brief Psychiatric Rating Scale (BPRS)

The BPRS developed by J.E.Overall and D.R.Gorham is a very widely used relatively brief scale that measures major psychotic and non-psychotic symptoms in individuals with a major psychiatric disorder particularly schizophrenia. The eighteen item BPRS is perhaps the most researched item in

psychiatry. Eighteen symptom constructs are listed for rating on a seven points scale (0-not present; 6-most severe). The rating is based upon observation made by the clinician / rater during a 15 to 30 minutes interview (items which measure tension, emotional withdrawal, mannerism and posturing, motor retardation and uncooperativeness) and subject's verbal report (items which measure conceptual disorganization, unusual thought content, anxiety, guilt feelings, grandiosity, depressive mood, hostility, somatic concern, hallucinatory behavior, suspiciousness and blunted affect). The other two items are excitement and disorientation.

The limitations of the BPRS include somewhat ambiguous criteria for the various levels of severity with potential for overlap in some of the items that are most broadly defined. Strengths of the scale include its brevity, ease of administration, wide use and well-researched status.

The BPRS is appropriate for evaluating baseline psychopathology, clinical outcome and treatment response with the frequency of repeat administrations at the discretion of clinical investigator.

The scale was developed primarily for inpatient populations, but it may also be utilized for outpatients.

A reliability co-efficient of 0.56 to 0.67 has been reported by authors (Overall & Gorham, 1962).

STATISTICAL ANALYSIS

The results were analyzed using SPSS package.

The t- test was used to compare continuous variables and chi-square test was used to compare categorical variables.

Pearson's Correlation Coefficient was calculated to find the relationship between insight and psychotic severity / global functioning.

ANOVA (Analysis Of Variance) was used to compare the mean insight scores between the 3 groups (regularly treated, irregularly treated and not treated).

Statistical significance was assumed at a p value<0.05.

RESULTS

There were 30 Schizophrenia patients and 30 mania patients.

Table1: Sociodemographic variables of the patients

Socidemographic variable	Schizophrenia	Mania	p value
Age- Mean	28.6	33	0.078
Sex- Males	25(83%)	25(83%)	1.00
Marital status- Married	8(26.7%)	12 (40.0%)	0.39
Religion- Hindu	27(90.0%)	25(83.3%)	0.08
Handedness- Left	27(90.%)	30(100.0%)	0.08
Family type- Joint	16(53.3%)	10(33.3%)	0.12
Prior treatment– Nil	13(43.3)	13(43.3)	0.55

The mean age of the schizophrenia patients was 28.6 and that of the mania patients was 33 years. 83. 3 % of patients were male. Of the schizophrenia patients 8 (26.7%) were married and of the mania patients 12 (40%) were married. Of the schizophrenia patients, 27 were Hindu and 3 were Muslims. Of the mania patients, 25 were Hindus, 1was Muslim and 4 were Christians. Of the schizophrenia patients, 3 were left-handed and of the mania patients none were left-handed. Of the schizophrenia patients, 53 % were living in a joint family, whereas of the mania patients 33.3% were living in a joint family. Of the schizophrenia patient, 43.3% were not on treatment and of the mania patients, 43.3% were not on treatment. The differences in these sociodemographic variables were not statistically significant between these two groups.

Table 2:Employment status of the patients

Employment	Schizophrenia	Mania	Total
	Count (%)	Count (%)	Count (%)
Unemployed	25 (83.3)	10 (33.3)	35 (58.3)
Employed	5 (16.7)	20 (66.7)	25 (41.7)

*p< .001

Of the schizophrenia patients, 83.3% were unemployed whereas only 33.3% of the mania patients were unemployed. This difference was statistically significant with a p value<0.001, when analyzed using the chi-square test.

Insight in schizophrenia vs mania at admission:

Table3. Prevalence of insight at admission

SUMD item	schizophrenia			mania			p value
	1 (aware)	3 (somewhat aware)	5 (unaware)	1 (aware)	3 (somewhat aware)	5 (unaware)	
1c	8(26.7%)	1(3.3%)	21(70%)	3(10%)	2(6.7%)	25(83.3%)	0.228
2c	15(50%)	3(10%)	12(40%)	11(36.7%)	3(10.0%)	16(53.3%)	0.552
3c	12(40%)	1(3.3%)	17(56.7%)	9(30.0%)	2(6.7%)	19(63.3%)	0.646
1p	11(36.7%)	0(0%)	19(63.3%)	9(30%)	3(10%)	18(60%)	0.19
2p	15(50%)	3(10%)	12(40)%	11(36.7%)	3(10%)	16(53.3%)	0.55
3p	12(40%)	1(3.3%)	17(56.7%)	9(30.0%)	3(10.0%)	18(60%)	0.48

SUMD- scale to assess unawareness of mental disorder; 1-mental disorder; 2-medication efficacy; 3-consequences; c- current; p-past.

a) Prevalence of insight at admission based on SUMD item 1c (current awareness of mental illness)

Of the schizophrenia patients, 70% were unaware, 3.3% were somewhat aware and 26.7 % were aware of current mental illness.

Of the mania patients, 83.3% patients were unaware, 6.7% were somewhat aware, and 3 % were aware of current mental disorder.

These differences were not significant with a p value of .228, when analysed using the chi-square test.

b) Prevalence of insight at admission based on SUMD item 2c (current awareness of achieved effects of medication)

Of the schizophrenia patients, 40 % were currently unaware, 10% were somewhat aware, and 50% were aware of achieved effects of medication. Of the mania patients 53.3% were currently unaware, 10% were somewhat aware of achieved effects of medication and 36.7% were aware of achieved effects of medication. These differences were not statistically significant with a p- value of 0.55, when analysed using the chi-square test.

c) Prevalence of insight at admission based on SUMD item 3c (current awareness of social consequences of mental disorder)

Of the schizophrenia patients, 56.7% were currently unaware, 3.3% were somewhat aware and 40 % were aware of social consequences of mental disorder.

Of the mania patients, 63.3% were currently unaware, 6.7% were somewhat aware and 30% were aware of the social consequences of mental disorder. These differences were not statistically significant with a p value of 0.646, when analysed using the chi-square test.

Prevalence of retrospective insight at admission:

d) Prevalence of retrospective insight at admission based on SUMD item 1p (awareness of illness of mental disorder in the past)

Of schizophrenia patients, 63.3% were unaware and 36.7% were aware of mental disorder in the past.

Of mania patients, 60% were unaware, 10% were somewhat aware, and 30% were aware of mental disorder in the past.

These differences were not statistically significant with a p value 0.19 when analyzed using the chi-square test.

b) Prevalence of retrospective insight at admission based on SUMD item 2p (awareness of achieved effects of medication in the past)

Of the schizophrenia patients, 40% were unaware, 10% were somewhat aware and 50% were aware of achieved effects of medication in the past.

Of the mania patients 53.3% were unaware, 10% were somewhat aware, and 36.7% were aware of achieved effects of medication in the past.These differences were not statistically significant with a p value of .55 when analysed using the chi-square test.

c) Prevalence of retrospective insight at admission based on SUMD item 3p (awareness of social consequences of mental disorder in the past)

Of the schizophrenia patients, 56.7% were unaware, 3.3% were somewhat aware and 40% were aware of the social consequences of mental disorder in the past.

Of mania patients, 60% were unaware, 10% were somewhat aware and 30% were aware of the social consequences of mental disorder in the past.

These differences were not statistically significant with a p value of .48, when analysed using the chi-square test.

Table 4.Comparison of insight score at admission in schizophrenia and mania

Unawareness of (SUMD item)	Schizophrenia (n = 30)		Mania (n = 30)		t	df	p value
	Mean	S D	Mean	S D			
Mentaldisorder (1c)	3.87	1.80	4.47	1.28	-1.49	58	0.141
Mental disorder (1p)	3.53	1.96	3.60	1.83	-0.14	58	0.892
Consequences (2c)	2.80	1.92	3.33	1.90	-1.08	58	0.284
Consequences (2p)	2.80	1.92	3.33	1.90	-1.08	58	0.284
Medication Efficacy (3c)	3.33	1.97	3.67	1.84	-0.68	58	0.502
Medication Efficacy (3p)	3.33	1.97	3.60	1.83	-0.54	58	0.589

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

The mean insight scores on the first 6 items of SUMD 1c & 1p (awareness of mental disorder currently and in the past), 2c & 2p (awareness of achieved effects of medication currently and in the past), 3c & 3p (awareness of social consequences of mental disorder currently and in the past), did not show any statistically significant differences at $p < .05$, when analysed using the t-test.

Similarly the insight scores of the remaining items (4-20) of SUMD also did not show any statistically significant differences

Insight in schizophrenia vs mania at discharge

Table – 5. Prevalence of insight at discharge in schizophrenia and mania

SUMD Item	Schizophrenia			mania			p value
	1 (aware)	3 (somewhat aware)	5 (unaware)	1 (aware)	3 (somewhat aware)	5 (unaware)	
1 c	10(33.3%)	10(33.3%	10(33.3%)	7(23.3%)	6(20.0%)	17(56.7%)	0.18
2 c	25(83.3%)	3(10.0%)	2(6.7%)	25(83.3%)	0	5(16.7%)	0.11
3 c	15(50.0%)	3(10.0%)	12(40.0%)	19(63.3%)	4(13.3%)	7(23.3%)	0.381
1 p	11(36.7%)	8(26.7%)	11(36.7%)	13(43.3%)	5(16.7%)	12(40%)	0.48
2 p	22(73.3%)	3(10%)	5(16.7%)	22(73.3%)	0	8(26.7%)	0.15
3 p	15(50%)	4(13.3%)	11(36.7%)	19(63.3%)	4(13.3%)	7(23.3%)	0.5

SUMD-Scale to assess unawareness of mental disorder; 1- mental disorder; 2-medication efficacy; 3-consequences; c-current and p-past

a. Prevalence of insight at discharge based on SUMD item 1c (current awareness of mental disorder

Of the schizophrenia patients, 33.3% were currently unaware, 33.3% were somewhat aware and 33.3% were aware of mental disorder at the time of discharge.

Of the mania patients, 56.7% were unaware, 20% were somewhat aware and 23.3% were aware of mental disorder. These differences were not significant with a p value of 0.18 when analyzed using the chi-square test.

b. Prevalence of insight at discharge based on SUMD item 2c (current awareness of achieved effects of medication)

Of the schizophrenia patients, 6.7 % were currently unaware, 10% were some what aware and 83.3% were aware of achieved effects of medication.

Of the mania patients 16.7% were currently unaware, 83.3% were aware of achieved effects of medication. These differences were not statistically significant with p value 0.12, when analysed using the chi-square test.

c. Prevalence of insight at discharge based on SUMD Item3c (current awareness of social consequences of mental disorder)

Of the schizophrenia patients, 40% were currently unaware, 10% were somewhat aware and 50% were aware of the social consequences of mental disorder. Of the mania patients, 23.3% were currently unaware, 13.3% were somewhat aware and 63.3%were aware of the social consequences of mental disorder.

These differences were not significant with a p value of 0.381, when analyzed using the chi-square test.

Retrospective insight at discharge

d) Prevalence of retrospective insight at discharge based on SUMD item 1p (awareness of mental disorder in past)

Of the schizophrenia patients, 36.7% were unaware, 26.7% were somewhat aware and 36.7%were aware of mental disorder in past.

Of the mania patients, 40% were unaware, 16.7% were somewhat aware and 43.3% were aware of mental disorder in past.

These differences were not statistically significant with a p value of 0.48, when analysed using the chi-square test.

e) Prevalence of retrospective insight at discharge based on SUMD item 2p (awareness of achieved effects of medication in the past)

Of schizophrenia patients, 16.7% were unaware, 10% were somewhat aware and 73.3% were aware of the achieved effects of medication in the past.

Of mania patients, 26.7% were unaware and 73.3% were aware of achieved effects of medication in past.

These differences were not statistically significant with a p value of 0.15, when analysed using the chi-square test.

f. Prevalence of retrospective insight at discharge based on SUMD item 3p (awareness of social consequences of mental disorder in past)

Of schizophrenia patients, 36.7% were unaware, 13.3% somewhat aware and 50% were aware of the social consequences of mental disorder in past.

Of mania patients, 23.3% were unaware, 13.3% were somewhat aware and 63.3% were aware of the social consequences of mental disorder.

These differences were not statistically significant at p= 0.05, when analyed using the chi-square test.

Table 6.a. Comparison of insight score in schizophrenia vs mania at discharge for items 1-3 in SUMD

Unawareness of (SUMD item)	Schizophrenia (n=30)		Mania (n = 30)		t	df	p value
	Mean	S.D	Mean	S.D			
Mental disorder (1c)	3.00	1.66	3.67	1.69	-1.54	58	0.129
Mental disorder (1p)	3.00	1.74	2.93	1.86	0.14	58	0.886
Consequences(2c)	1.47	1.14	1.67	1.52	-0.58	58	0.565
Consequences(2p)	1.87	1.55	2.07	1.80	-0.46	58	0.646
Medication Efficacy (3c)	2.80	1.92	2.20	1.71	1.28	58	0.206
Medication Efficacy (3p)	2.73	1.87	2.20	1.71	1.15	58	0.254

c- current; p-past SUMD-Scale to assess unawareness of mental disorder

The insight scores on SUMD item1-3, c & p for schizophrenia and mania were compared and did not show any statistically significant difference, when analyzed using the t-test.

Table 6.b. Comparison of insight score in schizophrenia v mania at discharge for the items 4 –20 in SUMD

Unawareness of (SUMD Item)	Schizophrenia (n=30)		Mania (n=30)		t	df	p value
	mean	S.D	mean	S.D			
Hallucination (c-aw)(4)	0.63	1.07	0.37	0.67	1.16	58	0.251
Hallucination (p-aw)(4)	**1.07**	**1.31**	**0.47**	**0.97**	**2.01**	**58**	**0.049**
Hallucination (c-at)(4)	1.37	2.08	0.63	1.43	1.59	58	0.116
Hallucination p-at (4)	**2.20**	**2.19**	**1.00**	**1.70**	**2.37**	**58**	**0.021**
Poor Social relationships (c-aw) (20)	1.57	1.59	1.33	1.58	0.57	58	0.571
Poor Social relationships (p-aw) (20)	1.57	1.59	2.17	2.05	-1.27	58	0.211
Poor Social relationships (c-at) (20)	**3.57**	**1.94**	**2.13**	**2.08**	**2.76**	**58**	**0.008**
Poor Social relationships (20p-at) (20)	**3.57**	**1.94**	**2.13**	**2.08**	**2.76**	**58**	**0.008**

aw- awareness; at- attribution; c-current; p-past.

On analyzing the item 4 of SUMD, using the t-test, it was found that schizophrenia patients had a poorer retrospective insight (higher the sumd score, poorer the insight) with respect to both awareness as well as attribution of hallucinations, compared to patients of mania

On analyzing the item 20 of SUMD, using the t-test, it was found that schizophrenia patients had poorer current & retrospective attribution of poor social relationships to mental disorder, compared to patients of mania.

The comparison of rest of the items between 4-20 of SUMD did not show any statistically significant difference.

Table7.a.Insight in schizophrenia at admission VS discharge or items1-3 of SUMD:

Unawareness of (SUMD Item)	Admission		Discharge		t	df	p value
	Mean	S D	Mean	S D			
Mental disorder (1c)	**3.87**	**1.80**	**3.00**	**1.66**	**2.64**	**29**	**0.013**
Mental disorder (1p)	3.53	1.96	3.00	1.74	1.44	29	0.161
Consequences (2c)	**2.80**	**1.92**	**1.47**	**1.14**	**4.13**	**29**	**0.000**
Consequences (2p)	**2.80**	**1.92**	**1.87**	**1.55**	**2.73**	**29**	**0.011**
Medication Efficacy (3c)	3.33	1.97	2.80	1.92	1.55	29	0.133
Medication Efficacy (3p)	3.33	1.97	2.73	1.87	1.87	29	0.071

c-current; p-past.

Comparing the insight scores at admission and at discharge, using the t-test, it was found that insight at discharge was better (lower the SUMD score better the insight) for the item 1c, 2c, and 2p.

Table 7.b.Insight in schizophrenia at admission vs discharge for items 4-20 of SUMD

Unawareness of (SUMD Item)	Admission		Discharge		t	df	p value
	Mean	S D	Mean	S D			
Hallucination (c-aw)(4)	0.87	1.22	0.63	1.07	2.25	29	0.032
Delusion (c-aw) (5)	1.67	1.73	0.97	1.45	2.50	29	0.018
Thought disorder (c-aw)(6)	1.20	2.14	0.37	1.27	2.51	29	0.018
Thought disorder (p-aw) (6)	1.03	2.03	0.40	1.28	2.22	29	0.035
Thought disorder (c-at) (6)	1.17	2.15	0.37	1.27	2.40	29	0.05
Thought disorder (p-at) (6)	1.17	2.15	0.47	1.36	2.30	29	0.029
Aggression-(c-at)(11)	3.60	2.01	2.63	2.14	2.19	29	0.036
Aggression(p-at)(11)	3.73	1.96	2.97	1.97	2.07	29	0.047
Confusion(c-at)(18)	1.60	2.22	0.67	1.42	2.70	29	0.011

c- current; p- past; aw- awareness; at- attribution.

Of the remaining items between 4- 20 of SUMD, these items showed better insight at discharge than at admission.

4c-aw (awareness of current hallucinations),

5c-aw (awareness of current delusion),

6 c & p, aw & at (awareness and attribution of thought disorder, current and past).

11c & p-at (attribution of poor control of aggressive impulses to mental disorder, current & past)

18 c-at (attribution of confusion to mental disorder)

Table8a. Insight in Mania at admission VS discharge for items 1-3 of SUMD

Unawareness of (SUMD Item)	Admission		Discharge		t	df	p value
	Mean	S D	Mean	S D			
Mental disorder (1c)	4.47	1.28	3.67	1.69	2.84	29	0.008
Mental disorder (1p)	3.60	1.83	2.93	1.86	1.78	29	0.086
Consequences (2c)	3.33	1.90	1.67	1.52	4.48	29	0.000
Consequences (2p)	3.33	1.90	2.07	1.80	2.99	29	0.006
MedicationEfficacy (3c)	3.67	1.84	2.20	1.71	3.34	29	0.002
MedicationEfficacy (3p)	3.60	1.83	2.20	1.71	3.25	29	0.003

c- current; p-past.

Insight was better with statistical significance in the SUMD items 1c, 2c, 2p, 3c, and 3p at discharge compared with admission, when analysed using the t-test.

Table8b. Insight in Mania at admission VS discharge for items 4-20 of SUMD:

Unawareness of (SUMD Item)	Admission		Discharge		t	df	p value
	Mean	S D	Mean	S D			
Hallucination(c-at)(4)	1.50	2.22	0.63	1.43	2.77	29	0.010
Aggression(c-aw)(11)	1.77	1.48	1.13	1.20	2.92	29	0.007
Aggression(p-aw)(11)	1.77	1.63	1.27	1.11	2.06	29	0.049
Aggression (c-at)(11)	4.03	1.71	2.40	1.99	4.70	29	0.000
Aggression (p-at)(11)	3.70	1.97	2.80	1.90	3.25	29	0.003
Inattention(c-aw)(17)	1.53	2.10	0.73	1.14	2.53	29	0.017
Inattention (p-at) (17)	1.47	2.19	0.50	1.28	2.35	29	0.026
Confusion(c-at)(18)	1.27	2.16	0.60	1.25	2.07	29	0.048
Confusion(p-at)(18)	0.93	1.93	0.00	0.00	2.65	29	0.013
Poor Social relations (c-at)(20)	3.20	2.27	2.13	2.08	2.40	29	0.023
Poor Social relations (p-at)(20)	3.03	2.31	2.13	2.08	2.12	29	0.043

aw- awareness; at- attribution; c-current; p-past.

Of the remaining items between 4-20 of SUMD, the following items were better at discharge compared to admission.

item 4c-at i.e. current attribution of hallucination to mental disorder

11c&p-aw&at i.e. awareness and attribution of poor control of aggressive impulses to mental disorder, current & past.

17c-aw &17 p-at (current awareness and retrospective attribution of poor attention to mental disorder)

18c&p-at (attribution of confusion to mental disorder, current &past)

20c&p-at (attribution of poor social relationships to mental disorder, current&past)

Table 9a.Changes in BPRS and GAF during hospitalization in Schizophrenia:

Schizophrenia	Admission		Discharge		t	df	p value
	Mean	S D	Mean	S D			
BPRS	27.40	5.97	12.47	4.22	15.81	29	0.000
GAF	29.67	8.90	53.00	10.22	-13.86	29	0.000

Table 9b.Changes in BPRS and GAF during hospitalization in mania:

Mania	Admission		Discharge		t	df	p value
	Mean	S D	Mean	S D			
BPRS	21.07	4.53	8.90	2.60	15.41	29	0.000
GAF	29.33	11.12	58.67	10.74	-15.33	29	0.000

Both in schizophrenia and in mania there was a statistically significant reduction in BPRS and improvement in GAF at discharge compared with at admission, when analyzed using the t-test.

Table 10.Correlation between severity of psychotic symptoms and unawareness at admission in Schizophrenia:

Unawareness of (SUMD item)	Mental disorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with BPRS	-O.664**	-0.191	-0.591**
p	0.000	O.311	0.001

** Significant at p<0.01

In schizophrenia at admission, when correlation was analyzed between unawareness at admission and total BPRS score, we found a significant negative correlation between unawareness and BPRS. i.e. more the unawareness less severe the psychiatric symptoms.

Table 11.Correlation between global functioning and unawareness at admission in Schizophrenia:

Unawareness of (SUMD item)	Mental disorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with GAF	-0.413*	-0.327	-0.387*
p	0.023	0.078	.035

Significant at p <0.05

In schizophrenia, at admission, when Correlation was analyzed between global functioning and unawareness, we found a significant negative correlation, between unawareness and global functioning i.e. more the unawareness, less the global functioning.

Table12.Correlation between severity of psychotic symptoms and unawareness at admission in mania

Unawareness of (SUMD item)	Mental disorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with BPRS	-0.125	0.406*	-0.006
p	0.512	0.026	0.977

**Significant at p<0.05

In mania, at admission, a significant positive correlation was seen between unawareness and psychotic severity.i.e more the unawareness, more the severity of psychotic symptoms.

Table 13: Correlation between global functioning and unawareness at admission in Mania:

Unawareness of (SUMD item)	Mentaldisorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with GAF	0.12	-0.348	-0.112
p	0.529	0.059	0.555

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

No significant correlation was seen between unawareness and global functioning at admission in Mania.

Table 14.Correlation between severity of psychotic symptoms and unawareness at discharge in schizophrenia:

Unawareness of (SUMD item)	Mentaldisorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with BPRS	-0.147	0.226	-0.099
p	0.437	0.230	0.604

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

No significant correlation was seen between unawareness and severity of psychotic symptoms in Schizophrenia at the time of discharge.

Table 15.Correlation between global functioning and unawareness at discharge in Schizophrenia

Unawareness of (SUMD item)	Mentaldisorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with GAF	-0.325	-0.184	-0.250
p	0.08	0.33	0.183

c- current; SUMD- scale to assess unawareness of mental disorder.

No significant correlation was seen between unawareness and severity of psychotic symptoms in Schizophrenia at the time of discharge.

Table16.Correlation between severity of psychotic symptoms and unawareness at discharge in Mania

Unawareness of (SUMD item)	Mentaldisorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with BPRS	0.220	0.506**	0.183
p	0.244	0.004	0.334

**Significant at p<0.01

A significant positive correlation was seen between unawareness and psychotic severity.i.e more the unawareness, more the severity of psychotic symptoms, at discharge in Mania

Table 17: Correlation between global functioning and unawareness at discharge in Mania

Unawareness of (SUMD item)	Mental disorder (1c)	Medication efficacy (2c)	Consequences (3c)
Correlation with GAF	0.203	-0.198	-0.023
p	0.282	0.295	0.906

c- current; SUMD- scale to assess unawareness of mental disorder.

No significant correlation was seen between unawareness and global functioning at discharge in mania.

Table18a.The association between insight and education

Unawareness of (SUMD item)	<10th std (n= 41)			>10thstd (n= 19)			p value (χ2)
	1 (aware)	3 (some what aware)	5 (unaware)	1 (aware)	3 (some what aware)	5 (unaware)	
Mental disorder (1c)	8(19.5%)	3(7.3%)	30(73.2%)	3(15.8%)	0	16(84.2%)	0.429
Medication efficacy (2c)	18(43.9%)	3(7.3%)	20(48.8%)	8(42.1%)	3(15.8%)	8(42.1%)	0.587
Consequences (3c)	15(36.6%)	2(4.9%)	24(58.5%)	6(31.6%)	1(5.3%)	12(63.2%)	0.931

n- number; c- current; SUMD- scale to assess unawareness of mental disorder.

The entire population, was divided into those educated less than 10 th std and those educated more than 10 th and insight between these two groups compared ,at admission, using the chi-square test, as shown above but no significant difference was present in insight between these two groups

Table19a.the association between Insight and number of episodes in mania at admission

Unawareness of (SUMD Item)	Episode Number				t	df	p value
	< = 2 (n = 15)		> 2 (n = 15)				
	Mean	S D	Mean	S D			
mental disorder(1c)	5.00	0.00	3.93	1.67	2.48	28	0.020
mental disorder (1p)	4.33	1.45	2.87	1.92	2.36	28	0.025
Consequences(2c)	4.07	1.67	2.60	1.88	2.26	28	0.032
Consequences(2p)	4.20	1.66	2.47	1.77	2.77	28	0.010
Medication Efficacy (3c)	3.93	1.67	3.40	2.03	0.79	28	0.438
Medication Efficacy (3p)	4.20	1.47	3.00	2.00	1.87	28	0.072

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

The group of mania was divided into those less than 2 episodes and those greater than 2 episodes. The differences in insight between these two groups compared.

It was found that mania patients with more than 2 episodes had a better insight compared to patients with less than 2 episodes at admission in the items 1c 1p 2c 2p of sumd. With statistical significance of p value less than 0.05 (t-test)

Table19b.the association between Insight and number of episodes in mania at discharge

Unawareness of (SUMD Item)	Episode Number				t	df	p value
	< = 2 (n = 15)		> 2 (n = 15)				
	Mean	S D	Mean	S D			
Mental disorder(1c)	4.33	1.23	3.00	1.85	2.32	28	0.028
Mental disorder (1p)	3.67	1.80	2.20	1.66	2.32	28	0.028

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

The comparison of these two groups at discharge showed that those with greater than 2 episodes had a better insight than those with less than 2 episodes in item 1c and 1p of SUMD.(t-test)

Table19c.the association between Insight and number of episodes in mania at discharge based on item 11 SUMD

Unawareness of (SUMD Item)	Episode Number				t	df	p value
	< = 2 (n = 15)		> 2 (n = 15)				
	Mean	S D	Mean	S D			
Aggression (c-aw)(11)	1.60	1.50	0.67	0.49	2.29	28	0.030
Aggression (p-aw)(11)	1.60	1.50	0.93	0.26	1.69	28	0.101
Aggression (c-at)(11)	3.20	1.93	1.60	1.76	2.37	28	0.025
Aggression (p-at)(11)	3.20	1.93	2.40	1.84	1.16	28	0.256

aw- awareness; at- attribution; c- current; p-past; SD-standard deviation.

Of the remaining items between 4-20 Of SUMD, current awareness and current attribution of poor control of aggressive impulses (item11 of SUMD), was better in mania patients with greater than 2 episodes.

Table20.The association between Insight and duration of schizophrenia at admission

Unawareness of (SUMD Item)	Duration						t	df	p value
	< 2			> 2					
	N	Mean	S D	N	Mean	S D			
Mental disorder (1c)	13	3.9	1.8	17	3.8	1.9	0.15	28	0.883
Mental disorder (1p)	13	3.5	2.0	17	3.6	2.0	-0.17	28	0.864
Consequences (2c)	13	3.2	1.9	17	2.5	1.9	0.88	28	0.387
Consequences (2p)	13	3.2	1.9	17	2.5	1.9	0.88	28	0.387
Medication Efficacy (3c)	13	3.5	2.0	17	3.2	2.0	0.31	28	0.761
Medication Efficacy (3p)	13	3.5	2.0	17	3.2	2.0	0.31	28	0.761

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

The schizophrenia patients were divided as those with less than 2 years duration and those with greater than 2 years duration of illness. Insight did not vary significantly between these two groups with respect to the first 3 items in SUMD (t-test).

Table 21a.The association between insight and prior treatment in schizophrenia at admission

Unawareness of (SUMD Item)	Nil (n= 13)		Regular (n = 10)		Irregular (n=7)		p value
	Mean	S D	Mean	S D	Mean	S D	
Mental disorder (1c)	4.38	1.50	3.40	2.07	3.57	1.90	0.391
Mental disorder (1p)	4.38	1.50	3.00	2.11	2.71	2.14	0.108
Consequences (2c)	3.15	2.08	2.80	1.99	2.14	1.57	0.548
Consequences (2p)	3.46	2.03	2.40	1.90	2.14	1.57	0.254
Medication Efficacy (3c)	3.77	1.92	3.00	2.11	3.00	2.00	0.587
Medication Efficacy (3p)	3.77	1.92	3.00	2.11	3.00	2.00	0.587

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

The schizophrenia group had 13 patients who were never treated, 10 regularly treated, and 13 irregularly treated. The insight between these 3 groups did not show any significant difference in the first 6 items of sumd both at admission and discharge. (ANOVA)

Table 21b.the association between Insight and prior treatment in mania at admission:

Unawareness of (SUMD Item)	NIL (n = 13)		Regular (n = 13)		Irregular (n = 4)		p value
	Mean	S D	Mean	S D	Mean	S D	
Mental disorder (1c)	4.69	1.11	4.23	1.54	4.50	1.00	0.670
Mental disorder (1p)	**4.85**	**0.55**	**2.08**	**1.75**	**4.50**	**1.00**	**0.001**
Consequences (2c)	3.77	1.92	2.69	1.97	4.00	1.15	0.273
Consequences (2p)	**4.38**	**1.26**	**2.23**	**1.92**	**3.50**	**1.91**	**0.010**
Medication Efficacy (3c)	3.62	1.89	3.31	1.97	5.00	0.00	0.282
Medication Efficacy (3p)	3.77	1.74	3.00	2.00	5.00	0.00	0.146

c- current; p- past; SUMD- scale to assess unawareness of mental disorder.

Among the mania patients, 13 had no prior treatment, 13 had regular treatment and 4 had irregular treatment.

On using ANOVA (Analysis of Variance) and comparing the insight in these 3 groups, for the first 3 items of SUMD, it was found that, patients who had prior regular treatment had better awareness of mental disorder in the past (retrospective awareness), and better awareness of achieved effects of medication in past compared to those who had nil and irregular treatment.

DISCUSSION

1. On comparing the **sociodemographic variables** it was found that both schizophrenia and mania patient groups were similar in most variable like age, sex and marital status except employment.

2. It was found that **employment status** was significantly better in mania (66.7%), compared to schizophrenia (16.7%). This is in line with the general view that the employment status of mania patients is better than schizophrenia patients.

3. Prevalence of unawareness

1. It was found that 70% of schizophrenia patients and 83.3% of mania patients were unaware of their mental disorder at the time of admission (SUMD item 1c). The literature data of the prevalence of unawareness of illness ranges from 50% to80% in various studies. The prevalence of unawareness in our study also falls within this range.

2. It was noted that although 70% of schizophrenia patients were unaware of mental disorder, only 40% were unaware of medication effects, and only 56% were unaware of social consequences. This means that a person may be unaware of mental disorder but still be aware of medication effects and social consequences.

   Similarly in mania, it was found that although 83% were unaware of mental disorder at the time of admission, only 53% were unaware of medication effects and 63% were aware of social consequences.

3. It is also noted that although 70% of schizophrenia patients were unaware of current mental disorder at the time of admission, only 63% were unaware of past mental disorder. In other words, there are some patients who are unaware of current mental disorder but still aware of a past mental disorder.

   Similarly, although 83% of manic patients were unaware of mental disorder at present, only 60% were unaware of mental disorder in past.

4. **The mean insight score** at admission was compared and no significant differences were noted between the 2 groups, namely, mania and schizophrenia in the first 6 items of SUMD. Our findings are consistent with findings of Amador et al., (1990) and Pini S, et al., (2001), who did not find any substantial difference in insight between schizophrenia and bipolar affective disorder. Our study does not lend support to evidence from other studies, which have shown schizophrenia to have a poorer insight compared to mania *e.g.*, a study done by Pini, S in 2004 showed that schizophrenia subjects were much more compromised in insight dimensions than psychotic mania. Studies done by Fennig et al., (1996) also showed that lack of insight was more prevalent in schizophrenia.

   But our study has shown that in some of the aspects of insight related to awareness and attribution of symptoms, schizophrenia has a poorer insight as compared to mania for *e.g.*, schizophrenia patients have a poorer retrospective awareness as well as retrospective attribution of hallucinations as compared to mania patients. Also schizophrenia

patients have a poorer attribution of poor social relationships to mental illness both in the current and past.

5. Insight in schizophrenia and mania at admission versus discharge

Comparison of insight scores at admission with insight scores at discharge showed that insight at discharge was significantly better compared to insight at admission both in schizophrenia and mania. In other words there was an improvement in insight during hospital stay and treatment.

Studies suggest that approximately one-third of individuals with schizophrenia improve in awareness of their illness when they take antipsychotic medication. Studies also suggest that a larger percentage of individuals with bipolar disorder improve on medication.

David, (1995), showed that 46% of the hospitalised psychotic patients showed improvement in insight during treatment. In our study also, patients had better insight at discharge as compared that at admission.

Our findings are consistent with a meta- analysis done by Ghaemi et al., (2004), which showed that insight in mania showed 20% improvement after recovering from acute mania. In other words, insight improves in bipolar mood disorder with resolution of the acute manic episode. This suggests that insight in mania is state dependent.

Our findings are also consistent with the studies done by Weiler et al., (2000), which showed that insight improves across diagnoses (schizophrenia, mania, depression). They too concluded that some aspects of insight are state related during exacerbation of illness in patients with schizophrenia and mania.

Our study lends evidence to support the theory that insight in psychotic illness like schizophrenia and mania is state dependent.

6. Correlation between insight and psychotic severity at admission in schizophrenia

When correlation was analysed between unawareness at admission and total BPRS score, we found a significant negative correlation between unawareness and BPRS *i.e.*, more the unawareness less severe the psychiatric symptoms. In other words patients with poor insight had less severe psychiatric symptoms and patients with better insight had higher psychiatric symptoms.

This surprising finding is the exact opposite of some of the previous findings in studies done by Francis et al., 2001 & Williams et al., 2002 that found that better insight was associated with less severe psychiatric symptoms.

This may be due to the fact that people with better insight had more severe anxiety, depression, somatisation and hypochondriacal symptoms and hence scored high on these items of BPRS in our study.

7. Correlation between insight and severity of psychotic symptoms at admission & discharge in mania

In mania, both at admission and at discharge, we found a significant positive correlation between unawareness and psychotic severity *i.e.*, more the unawareness, more the severity of psychotic symptoms. In other words patients with poor insight had more severe psychiatric symptoms and patients with better insight had less severe psychiatric symptoms.

This finding is consistent with previous studies done by Francis et al., (2001) and Williams et al., (2002), that patients with better insight had less severe psychiatric symptoms.

8. Correlation between insight and severity of psychotic symptoms at discharge in schizophrenia

No significant correlation was seen between unawareness and severity of psychotic symptoms in schizophrenia at the time of discharge.

9. Correlation between insight and global functioning at admission in schizophrenia

When Correlation was analysed between global functioning and unawareness, we found a significant negative correlation between unawareness and global functioning *i.e*., more the unawareness, less the global functioning. In other words patients with poor insight had poor global functioning and patients with better insight had better global functioning. This is consistent with findings of Amador et al., (1994) and Pini S, et al., (2001).

10. Correlation between insight and global functioning at discharge in schizophrenia

No significant correlation between insight and global functioning was found at the time of discharge in schizophrenia patients.

11. Correlation between insight and global functioning in mania

No significant correlation was seen between unawareness and global functioning at admission in mania, both at admission as well as at discharge.

12. Insight and education

In our study we were not able to find any association between insight and educational qualification (number of years of education). In other words, better educated people did not have a better insight as compared to the less educated.

This is unlike the previous studies done by

1) Cernovsky & Landmark (2004), which showed that people with poor insight had usually lower education

2) MacPherson et al., (1996), also concluded that number of years spent in education explained proportion of insight

3) Cernovsky in 1994 also showed that patients with high education were less frequently labeled as lacking insight.

Our study does not give evidence for a similar conclusion

13. Insight and number of episodes in mania

It was found that patients with greater than 2 episodes had better insight, when compared with patients with less than 2 episodes, both during admission and discharge. It is interesting to note that studies done by Yen C F et al., (2004), also found that shorter duration of illness was associated with poorer insight. Our study also finds evidence for a similar conclusion.

14. Insight and duration of schizophrenia

It was found schizophrenia patients with illness duration more than 2 years did not have better insight from schizophrenia patients with illness of less than 2 years duration.

15. Insight and prior treatment

There was no difference in insight between the treated and untreated in the schizophrenia group, whereas in the mania group those with regular prior treatment had better retrospective insight compared to those who did not have regular prior treatment.

SUMMARY AND CONCLUSIONS

A group of 30 patients with schizophrenia who were hospitalized were compared with 30 patients with mania who were hospitalized on sociodemographic profile and clinical variables. Validated scales were used to assess insight, psychotic severity and overall functioning at admission and discharge. It was found that insight in schizophrenia and mania did not have substantial differences. We found that insight improves during hospitalization and treatment in both the groups. We also conclude that some aspects of insight may be state dependent in both these groups. It was also observed that better insight is associated with lower psychotic symptoms in mania. But in schizophrenia, better insight was associated with higher psychotic severity at admission, probably because of higher scores on anxiety, somatization, hypochondriacal and depressive symptoms. We found that better the insight, better the psychosocial functioning in schizophrenia. We did not find any correlation between insight and global functioning in mania. We did not find any association between level of education and insight. We did not find any association between insight and duration of illness in schizophrenia. In mania, we found that patients with a greater number of episodes had better insight when compared with patients with less number of episodes. In schizophrenia patients, we found no association between prior treatment and insight. In mania patients, we found that patients with prior treatment had better retrospective insight as compared to those who had no treatment.

LIMITATIONS

1. Smaller sample size

2. The investigator did not receive any formal training in administering SUMD. He has applied it from the knowledge based on literature.

3. Single investigator having done all the administration of scales.

4. Sample has been collected from acute ward (family ward) of the institute and results may not be generalisable to outpatients and patients who are institutionalised.

5. Study being of a naturalistic design did not control the treatment variables.

STRENGTHS

1. Being of a naturalistic design, the study throws light on the real world evolution of symptoms like, psychotic severity, global functioning and insight.

2. Most studies of insight have been done at a single point of time. This study has been done at two points of time *i.e.*, at admission and discharge.

FUTURE DIRECTIONS

1. Comparison of insight in schizophrenia with other groups like depression and schizoaffective disorder.

2. Correlation of lack of insight with neuropsychological deficits.

3. More research is needed to determine the specific correlation between CBT, WCST and insight in schizophrenia.

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SCALE TO ASSESS UNAWARENESS OF MENTAL DISORDER

1 awareness of mental disorder 0 1 2 3 4 5

Current(c)

Past (p)

2. awareness of achieved effects of medication 0 1 2 3 4 5

C (Current)

P (Past)

3. Awareness of social consequences of mental disorder 0 1 2 3 4 5

C (Current)

P (Past)

4) Hallucination – 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

5) Delusion 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

6) Thought disorder 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

7) Inappropriate affect 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

8) Unusual appearance 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

9) Stereotypic behavior 01 2 3 4 5

Awareness

C

P

Attribution

C

P

10) Poor social judgment 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

11) Poor control of aggressive impulses 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

12) Poor control of sexual impulses 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

13) Alogia 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

14) Flat Affect 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

15)Avolition- apathy 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

16)Anhedonia/Asociality 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

17) Poor attention 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

18) Confusion-Disorientation 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

19)Unusual eye contact 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

20)Poor social relationships 0 1 2 3 4 5

Awareness

C

P

Attribution

C

P

Scoring: 0-Not applicable or symptom absent, 1-aware

3-somewhat aware, 5-unaware

Sociodemographic and clinical profile

Name:

Age

Sex

O.P No. **I.P. No.**

marital status: unmarried/married/divorced/separated

religion: Hindu,muslim,others.

Employment: Employed/Unemployed

Occupation:laborer skilled/unskilled,clerical,professional/business

education-(high/low(primary(1-5),elementary(6-8) hig(9-10),higher sec(11,12),graduate,postgraduate

handedness(right/left)

family: nuclear/ joint

Socioeconomic class: less than 900. 900-3000,30000-9999,10000-20000,above 20,000

Diagnosis:

Duration of illness:

Continous/episodic:

Episode number:

Previous treatment:Regular/irregular

Current treatment:

GLOBAL ASSESSMENT OF FUNCTIONING (GAF) SCALE

Consider psychological, social, and occupational functioning on a hypothetical continuum of mental health-illness. Do not include impairment in functioning due to physical (or environmental) limitations

Code: (Note: Use intermediate codes when appropriate: eg. 45,68,72)

100-91: Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.

90-81: Absent or minimal symptoms (E.g., mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g., an occasional argument with family members).

80-71: If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g., difficulty concentrating after family argument): no more than slight impairment in social, occupational, or school functioning (e.g. temporarily falling behind in schoolwork).

70-61: Some mild symptoms (e.g., depressed mood and mild insomnia OR some difficulty in social, occupational, or school functioning (e.g., occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.

60-51 : Moderate symptoms (E.g., flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning (e.g., few friends, conflicts with peers or coworkers).

50-41: Serious symptoms (e.g., suicidal ideation, severe obessional rituals, frequent shoplifting) OR any serious impairment in social, occupational, or school functioning (e.g., no friends, unable to keep a job).

40-31 : Some impairment in reality testing or communication (e.g., speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas such as work or school, family relations, judgment, thinking, or mood (e.g., depressed man avoids

friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home, and is failing at school.

30-21 : Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgment (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas. (e.g., stays in bed all day; no job, home, or friends).

20-1: Some danger of hurting self or other (e.g, suicide attempts without clear expectation of death, frequently violent, manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears feces) OR gross impairment in communication (e.g., largely incoherent or mute).

10-1: Persistent danger of severely hurting self or others (e.g., recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.

0: Inadequate information.